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Cooperative ECONOMIC INSECT REPORT

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PLANT PEST CONTROL DIVISION

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UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearinghouse and does not assume responsibility for accuracy of the material.

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COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

GRASSHOPPERS causing crop damage in Indiana and North Dakota. Heavy FALL ARMYWORM damage continues in several southern states and damage reported in areas of Maryland, Illinois and Missouri. (p. 799). CORN EARWORM infestations damaging in areas of South Carolina, Georgia and New Mexico. (p. 800). CORN LEAF APHID increasing in Arizona; high in Oklahoma and ranges 0 to over 500 in corn tassels in east central South Dakota. Adults of CORN ROOTWORMS becoming more abundant and damaging corn in Missouri, Ohio, Minnesota, Wisconsin and Nebraska; larval damage evident in several areas. (p. 801). TWO-SPOTTED SPIDER MITE damaging corn in Colorado, Utah and Washington; and another SPIDER MITE (Oligonychus stickneyi) damaged corn in New Mexico. THREE-CORNERED ALFALFA HOPPER continues damaging to alfalfa in areas of Arizona, Texas and New Mexico. (p. 802). FIELD CRICKETS heavy in eastern and northern North Dakota; controls to protect flax from injury underway. (p. 804).

Larvae of a noctuid, Proxenus mindara, caused considerable loss to strawberry fruit in areas of Santa Clara County, California. (p. 809).

BOLL WEEVIL populations increasing generally; third-generation weevils migrating in many areas. Infestations expected to increase in areas of Tennessee and Mississippi. (p. 809). BOLLWORMS generally present in cotton; infestations increased in some areas and controls needed on succulent cotton. CABBAGE LOOPER continues to damage cotton foliage from South Carolina to California, with infestations light to heavy. (p. 810). BEET ARMYWORM required control and COTTON LEAF PERFORATOR infestations becoming heavy in Arizona cotton. LYGUS BUGS and COTTON FLEAHOPPER also troublesome in Arizona. (p. 811).

BARK BEETLES causing considerable damage in California and Idaho; Dendroctonus pseudotsugae damage exceeds that of any year since 1956 in Idaho. (pp. 804, 812). SATIN MOTH adults taken in Hornbrook, Siskiyou County; a considerable distance from previously known infested locales. FALL WEBWORM becoming more prevalent in North Dakota and Minnesota; and damage reported in Vermont, North Carolina and Texas. ELM LEAF BEETLE heavy in areas of Oklahoma and California, and MIMOSA WEBWORM infestations heavy on mimosa in Delaware, Maryland and North Carolina. (pp. 812, 813).

FACE FLY remains number one pest of livestock in Illinois and populations continue high in Vermont. MOSQUITOES increased slightly in California and Utah; populations of Anopheles quadrimaculatus more numerous than at any time during last several years in Jefferson County, Texas; and Aedes sollicitans abundant and annoying in Maryland and Alabama, with A. vexans also very annoying in Maryland. HORN FLY heavy throughout Alabama and TABANIDS heavy in areas of Louisiana, Oklahoma and Utah. (p. 814).

CORRECTION. (p. 816).

ADDITIONAL NOTES. (p. 804).

INSECT DETECTION: New state records reported were Dusmetia sangwani in Hawaii (p. 818) and face fly in Minnesota (p. 814). New county records reported were white-fringed beetles in Cullman County, Alabama (p. 801); soybean cyst nematode in Poinsett County, Arkansas (p. 804); and Conotelus mexicanus in Hawaii County, Hawaii (p. 818).

HAWAIIAN insect notes. (p. 818).

Status of some IMPORTANT INSECTS in the United States. (p. 819).

Reports in this issue are for week ending August 19, unless otherwise indicated.

WEATHER OF THE WEEK ENDING AUGUST 22

A below-normal average temperature regime prevailed in the western section of the country, except in California and extreme southern areas where weekly averages were 3° to 6° above normal. The northern Great Plains, upper Great Lakes, and northern New England regions recorded above normal average temperatures. During the middle of the week, a cold front, stretching from the Dakotas through Kansas, brought below-normal temperatures to the central Great Plains and upper Mississippi Valley. Increased rainfall activity in some sections of the South Atlantic States resulted in below-normal temperatures along the Carolina coast. Near-normal temperatures, however, were experienced in most of the eastern section of the country and in the Gulf coastal region. Near-record low temperatures and light frost occurred in some higher areas of the central Rocky Mountains. In the Far Southwest and Pacific States, temperatures rose above 100° as far north as the Willamette Valley in Oregon.

Except for a few scattered thundershowers, most of the western half of the country remained dry. Numerous showers brought moderate to generous rainfall to the central Great Plains, Mississippi and upper Ohio Valleys, some sections of the South Atlantic States, and to the Gulf coastal region. In New England, the Middle Atlantic States, and Great Lakes region, rainfall was generally light to moderate. Heavy rainfall was reported in some sections of Arkansas, Louisiana, Kansas, Texas, Tennessee, and Mississippi. Helena, Arkansas, reported a 4.15-inch total weekly rainfall, and Vicksburg, Mississippi, received 8.08 inches. This was the wettest week in Arkansas since the latter part of June. Locally heavy rainfall occurred in a number of other places, including over 3 inches at Paw Paw, Illinois, in an hour, nearly 7 inches at Oaks, North Dakota, in 36 hours, and 7.01 inches at Memphis, Tennessee, for the week. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

GRASSHOPPERS - INDIANA - Melanoplus femur-rubrum and M. differentialis moving from roadside and field margin areas into crop fields; causing considerable damage. Economic populations found in localized areas throughout central and northern areas. In a few localized areas counts ranged to highs of 40 per square yard in alfalfa and clover. Controls being applied locally to protect tomatoes, soybeans and corn. Adults of both species observed in Tippecanoe County on August 19. (Matthew). M. differentialis doing considerable feeding in corn in Miami County. (Everly). ILLINOIS - Grasshoppers damaging soybeans in east central section. In some corn, marginal rows being attacked. (Ill. Ins. Rpt.). OKLAHOMA - Adult grasshopper survey recently completed in 17 panhandle, northwestern and western counties showed rangeland populations generally light. Heaviest infestations continue to be in soil bank acreages, roadsides and cropland margins. Dominant species M. differentialis, M. bivittatus, M. bilituratus, M. packardii and Mermiria maculipennis. In alfalfa in Payne County, counts ranged 0.3-3.6 nymphs per sweep of Conocephalus fasciatus. (Okla. Coop. Sur.). NEBRASKA - Adults of M. bivittatus numerous in northeastern portions of Dixon, Dakota and Cedar Counties; one cornfield with damage in margin noted. (Bergman). Formal adult surveys near completion; adults widely scattered. Most infestations noneconomic to light. (Hill, Bell). SOUTH DAKOTA - Adult survey nearing completion in State; very spotted infestation indicated. (Mast). NORTH DAKOTA - Threatening to severe infestations in northwest counties continue to damage late crops of flax, corn and alfalfa. Scattered infestations in other areas also causing alarm. Control measures to protect late crops underway in many sections. (N. D. Ins. Sur.). UTAH - Damaging numbers north of Summit, west of Kanarraville, with scattered infestations on Cedar Mountain in Iron County. (Sjoblom, Knowlton). Still numerous on Wilson Mesa of Grand County; Deer Flat, west of Blanding in San Juan County; and in Mt. Sterling, Hyrum and Paradise areas of Cache County. More dispersed now in Box Elder County areas. Many dying off. (Thornley, Knowlton).

FALL ARMYWORM (Laphygma frugiperda) - TEXAS - Ranged 10-45 per 5 sweeps in alfalfa in Brazos River area of Burleson County; also, as a budworm, damaged 15-40 percent of late grain sorghum in area. (Doering). OKLAHOMA - Infestation 60 percent in young sorghum in local areas of Payne County. (Okla. Coop. Sur.). LOUISIANA - Very heavy infestations continue throughout southern area; larvae ranged 10-130 per sweep on pasture grass in Washington Parish; ranged 10-40 per sweep on volunteer wheat and oats and on late grain sorghum in Tensas Parish; very heavy in St. Landry Parish; and spotty on alfalfa and pasture grass in Caddo Parish. Light to medium infestations reported in lawns in St. John the Baptist Parish. (Spink). ALABAMA - Still causing considerable damage in State. Damage to peanuts reported in Dale County and damage to sorghum and other crops reported in Mobile County. (Arant, Barns, Seibels). GEORGIA - Light to moderate on peanuts and infestations general and heavy in whorls and on heads of grain sorghum in southern area. (Johnson). NORTH CAROLINA - Heavy infestation in millet in Pender County. (Honeycut, Farrier). Injuring corn in Caldwell County. (Andrews, Farrier). MARYLAND - Light to moderate in late corn in Frederick and Talbot Counties. (U. Md., Ent. Dept.). ILLINOIS - Widely scattered over entire State in late maturing corn, with economic infestations occurring in some fields. (Ill. Ins. Rpt.). MISSOURI - Late-planted corn in southwest ranged 6-12 percent infested. In northwest, 2-4 percent of plants in late-planted fields infested. (Munson, Thomas, Wood).

ARMYWORM (Pseudaletia unipuncta) - OHIO - Larvae in grass cover in peach orchard in Jackson County. (Blair). MINNESOTA - Light infestations in corn in southeast; infestations seem to be restricted to weedy corn fields. Reported in Winona clipping oat heads; yield reduction 75 percent in 2 fields. (Minn. Ins. Rpt.). MARYLAND - Moderately injuring sweet corn locally in Wicomico County. (U. Md., Ent. Dept.).

CORN EARWORM (Heliothis zea) - SOUTH CAROLINA - Causing damage to late-planted corn in Berkeley County. (Nettles et al.). GEORGIA - Light to heavy infestations on soybeans and light to moderate on peanuts and grain sorghum in southern area. (Johnson). LOUISIANA - Spotty infestations found in alfalfa in Caddo Parish. (Spink). MISSOURI - Counts in grain sorghum in southwest ranged 0-10 larvae per 100 heads. (Munson, Thomas, Wood). ILLINOIS - Egg laying occurring from central area south, but no eggs found in northern area. (Ill. Ins. Rpt.). NEBRASKA - Field corn in southeast 60-80 percent infested with larvae; field corn in Lincoln County 4-5 percent infested. (Bergman). OKLAHOMA - Counts in peanuts in 3 Caddo County fields revealed 9 larvae per 100 terminals and in several Payne County fields 6 larvae per 100 terminals noted. In cowpeas, light damage noted in Haskell County. Some sorghum fields examined in Stillwater area showed 0.1-0.8 larvae per head. (Okla. Coop. Sur.). COLORADO - Larvae 4-6 per 10 ears of corn in Montrose and Delta Counties. (Colo. Ins. Sur.). UTAH - Early sweet corn 50-80 percent infested in Iron County; infestation considered below average. (Sjoblom, Knowlton). Earworm counts of 20 and 75 percent tip infestation recorded in 2 home patches at Logan; these counts unusual for northern area this season. Most counts in canning districts have been much lower. (Thornley, Davis). NEW MEXICO - Causing severe damage to ears of corn in Luna and Dona Ana Counties. (N. M. Coop. Rpt.).

EUROPEAN CORN BORER (Pyrausta nubilalis) - NEBRASKA - Second-brood egg masses average 8-40 per 100 plants in Lancaster County; adults numerous in field margins. Egg deposition will likely continue for several weeks. (Bergman). MINNESOTA - Development delayed by cool weather; only few moths emerged. Occasional egg mass observed. It appears that only late-harvested sweet corn may require treatments. (Minn. Ins. Rpt.). WISCONSIN - Egg masses averaged 1 per 50 plants in corn in Iowa, Lafayette and Grant Counties. A field of very early field corn near Prairie du Chien had 4 first-instar larvae per 50 plants feeding in the ear. (Wis. Coop. Sur.). ILLINOIS - Egg mass counts averaged 23 per 100 corn plants in northeastern and northwestern sections. About 40 percent of eggs hatched. Pupation of first-generation borers still averages less than 50 percent in northern section. (Ill. Ins. Rpt.). MISSOURI - Heavy moth flights observed in southeast. Egg mass counts ran as high as 40 per 100 plants. (Keaster). Few moths still present in northwest. (Munson, Thomas, Wood). MICHIGAN - Male moths emerging at Sodus from larvae collected from sweet corn. Fifth-instar larvae and pupae at Detroit. Larval populations decreasing in all areas. (Hutson, August 16). DELAWARE - Adults increased rapidly in Sussex County, with few fresh egg masses and first-instar larvae found on corn throughout State. MARYLAND - Infestations generally light to moderate, but increasing, in field corn in all sections. (U. Md., Ent. Dept.). ALABAMA - Second generation active in Tennessee Valley. Very few borers present in Sand Mountain area. (Arant).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - ALABAMA - Continues to damage grain sorghum in Mobile County; one 20-acre field completely destroyed. (Seibels). LOUISIANA - Causing considerable damage to late sorghum in Tensas and East Baton Rouge Parishes. (Spink).

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - OKLAHOMA - Second-generation borers averaged 2.1 per plant in May-planted dent corn in Stillwater area. (Okla. Coop. Sur.).

CORN ROOT WEBWORM (Crambus caliginosellus) - NORTH CAROLINA - Larvae causing injury in field of milo in New Hanover County. (Aycock, Farrier).

SORGHUM WEBWORM (Celama sorghiella) - TEXAS - New generation beginning to build up in late-planted grain sorghum in Burleson County. (Doering). MISSOURI - In southwest, 6 percent of sorghum heads infested with 1-4 mature larvae or pupae. (Munson, Thomas, Wood).

SORGHUM MIDGE (Contarinia sorghicola) - OKLAHOMA - Only occasional midge reported from fields examined in Payne County. (Okla. Coop. Sur.).

CORN LEAF APHID (Rhopalosiphum maidis) - ARIZONA - Infestations increasing on sorghum statewide. (Ariz. Coop. Sur.). OKLAHOMA - High populations in sorghum in Major County; counts up to 100 per whorl in sorghum in Payne County. (Okla. Coop. Sur.). SOUTH DAKOTA - Counts range 0-500 plus in corn tassels in east central area. (Mast). MINNESOTA - Infestations greatly reduced; predators active. (Minn. Ins. Rpt.). WISCONSIN - Populations remain unchanged; predators very active. (Wis. Coop. Sur.). ILLINOIS - Infestations averaged 5 percent of plants in late-maturing fields heavily infested. Every plant examined had some aphids on it. (Ill. Ins. Rpt.). OHIO - Low to medium populations observed on 90-100 percent of cornstalks in 3 fields of late-planted corn in Clark County; percent infested stalks less in several other fields checked. (Blair). Populations decreasing in previously reported infested fields in Pike County. (McFerren). One field 96 percent infested, with low population per stalk, in Ottawa County. (Grimm, Aug. 11).

STINK BUGS (Chlorochroa spp.) - NEW MEXICO - Populations, 95 percent C. sayi and 5 percent C. ligata, damaging small grains in Hidalgo and Luna Counties. Several fields averaged 1-2 per head of grain. (N. M. Coop. Rpt.).

RICE STINK BUG (Oebalus pugnax) - LOUISIANA - Adults averaged 18 and nymphs 3 per 100 sweeps in 12 rice fields in St. Landry Parish. (Spink).

CHINCH BUG (Blissus leucopterus) - OHIO - Continues to damage field corn in Hardin County. (Blair, Aug. 13). ALABAMA - Causing heavy damage over Mobile County. (Seibels). LOUISIANA - Reported in pastures and rice in St. Landry Parish. (Spink). OKLAHOMA - Counts ranged 10-15 per linear foot in sorghum in Pawnee County. (Okla. Coop. Sur.).

A CHINCH BUG (Blissus leucopterus insularis) - LOUISIANA - Still reported from many areas of State in St. Augustine grass lawns. (Spink).

CORN ROOTWORMS (Diabrotica spp.) - MISSOURI - Adult counts on corn in northwest range 0-8 per ear. In central area, counts ranged from 4 to as high as 18 per ear on corn that still had fresh silks. One field in central area severely damaged. (Munson, Thomas, Wood). OHIO - Large numbers of D. longicornis found feeding in 33-acre field of corn in Hardin County. Corn badly lodged due to winds. (Blair, Aug. 13). MINNESOTA - Adults emerging and are quite common in southern counties, feeding on pollen collected in leaf axiles of corn. Rootworm damage to corn is quite evident, especially in southern area. D. longicornis dominant species, with very few D. undecimpunctata howardi present. (Minn. Ins. Rpt.). WISCONSIN - Adults of D. longicornis causing noticeable injury to silks of corn in some fields in southwest. Some feeding observed on kernels of exposed corn. Adults also becoming more numerous in other sections. (Wis. Coop. Sur.). NEBRASKA - Adults quite numerous in southeast, south central and northeast; populations primarily D. virgifera in areas surveyed. D. longicornis adults low in central and southern regions. D. undecimpunctata howardi adults more prevalent in southern counties, but present in small numbers throughout eastern area. Rootworm damage continues in eastern area. (Bergman).

WHITE-FRINGED BEETLES (Graphognathus spp.) - ALABAMA - Found for first time in Cullman County during July. (PPC, So. Reg.).

NITIDULIDS - MINNESOTA - High numbers of adults noted in corn in southern half of State. Some feeding damage observed on tips of ears. (Minn. Ins. Rpt.). UTAH - Infesting 50 percent of ears of corn in most Washington County fields. Older ears about all infested. (Knowlton, Hughes).

FLEA BEETLES - OKLAHOMA - Undetermined species heavy on sorghum in Bryan County and light in Payne County. (Okla. Coop. Sur.).

THRIPS - MARYLAND - Moderately injuring corn in Frederick County and late soybeans in Worcester County. (U. Md., Ent. Dept.). UTAH - Numerous in alfalfa at Willard, Box Elder County. (Knowlton).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - COLORADO - Infesting most fields of corn; damage on lower and middle leaves, with entire plant being infested in some fields in Prowers, Bent, Otero, Crowley, Pueblo, Larimer, Weld, Adams and Boulder Counties. (Colo. Ins. Sur.). UTAH - Damaging many fields of field corn and some of sweet corn throughout Weber County and in northern Davis County. (Knowlton). WASHINGTON - Heavy damage to corn. (Landis).

A SPIDER MITE (Oligonychus stickneyi) - NEW MEXICO - Heavy infestations damaging corn and grain sorghum in Hidalgo, Luna and Dona Ana Counties. (N. M. Coop. Rpt.).

AN ERIOPHYID MITE - OKLAHOMA - Infestations of an unidentified species extremely widespread in some areas in Woodward County, with severe damage to developing buds; counts ranging up to 1,500 nymphs per head not uncommon. (Okla. Coop. Sur.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - UTAH - Populations low in Washington County alfalfa. (Knowlton). COLORADO - Populations remain low in alfalfa; 100 per 100 sweeps in Prowers County; 0-20 per 100 sweeps in Bent, Otero, Crowley and Pueblo Counties. (Colo. Ins. Sur.). NEW MEXICO - Generally light in alfalfa in southern counties; occasional heavy infestations requiring treatment in Chaves and Eddy Counties. (N. M. Coop. Rpt.). OKLAHOMA - Populations declined somewhat during past week due to thundershower activity. Counts in several fields in Payne County ranged 2-15 per sweep. (Okla. Coop. Sur.). WISCONSIN - Surveys negative to date. (Wis. Coop. Sur.).

PEA APHID (Macrosiphum pisi) - WYOMING - Averaged 25 per sweep in alfalfa in Big Horn Basin and 15 per sweep in Sheridan and Johnson Counties. (Fullerton). COLORADO - Counts in alfalfa 100-300 per 100 sweeps in Montrose County; 100 per 100 sweeps in Prowers, Bent, Otero, Crowley and Pueblo Counties; 1,000-2,000 per 100 sweeps in Saguache, Rio Grande, Conejos, Alamosa and Costilla Counties. (Colo. Ins. Sur.). NEW MEXICO - Generally light in Dona Ana County alfalfa. (N. M. Coop. Rpt.).

LYGUS BUGS (Lygus spp.) - UTAH - Have been extremely numerous in Kane County alfalfa. (Knowlton). WYOMING - Adults averaged 9 per 25 sweeps in alfalfa in Sheridan and Johnson Counties and 7 per 25 sweeps in Big Horn Basin. (Fullerton). COLORADO - Counts in alfalfa for seed production 200-300 per 100 sweeps in untreated fields and 20-50 per 100 sweeps in treated fields in Mesa County. Alfalfa in Delta County has 150-200 Lygus spp. per 100 sweeps. Counts 50-200 per 100 sweeps in Prowers, Bent, Otero, Crowley and Pueblo Counties. (Colo. Ins. Sur.). NEW MEXICO - Averaged 7-10 per sweep in northern Dona Ana County alfalfa. (N. M. Coop. Rpt.).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Infestations continue very high in alfalfa statewide; counts average 40-60 per 10 sweeps. Some of more heavily infested fields have as many as 20 per sweep, with girdling damage very evident. (Ariz. Coop. Sur.). NEW MEXICO - Averaged 4-6 per sweep in Dona Ana County alfalfa. (N. M. Coop. Rpt.). TEXAS - Ranged 20-35 per 5 sweeps in alfalfa in Burleson County. (Doering, Randolph). OKLAHOMA - Some populations in north central area rose slightly during week; counts ranged 0.1-2.5 per sweep. (Okla. Coop. Sur.). LOUISIANA - Ranged 25-48 and averaged 33 per 100 sweeps in soybeans in St. Landry Parish. (Spink).

POTATO LEAFHOPPER (Empoasca fabae) - MISSOURI - Counts in alfalfa in southwest ranged 4-12 per sweep; mostly nymphs. Counts in southeast ranged 8-45 per sweep and from 15 to over 100 per sweep in central area. Some yellowing of alfalfa evident in central area. (Munson, Thomas, Wood). WISCONSIN - No appreciable increase in alfalfa in southwest or other areas of State. Still increasing some in Dane County, however; counts 1-2 per sweep. Populations generally spotty throughout State, with heavier populations being generally in heavier soil areas. (Wis. Coop. Sur.). DELAWARE - Slight increase noted on soybeans, highest counts 2-3 per sweep in Sussex County. Present on alfalfa statewide. (Burbatis, Mason). MARYLAND - Causing considerable yellowing in several alfalfa fields in Frederick County. Light on soybeans in Wicomico and Worcester Counties. (U. Md., Ent. Dept.).

BEET ARMYWORM (Spodoptera exigua) - TEXAS - Populations ranged 30-50 per 5 sweeps in alfalfa in Burleson County. (Doering). Serious damage to castor beans observed. (Randolph).

VARIEGATED CUTWORM (Peridroma saucia) - COLORADO - Moderate numbers found in alfalfa in Saguache and Rio Grande Counties. (Colo. Ins. Sur.).

ALFALFA CATERPILLAR (Colias philodice eurytheme) - ARIZONA - Infestations continue to increase slowly in alfalfa statewide; counts average 2-4 larvae per 10 sweeps. (Ariz. Coop. Sur.). TEXAS - Light infestation on alfalfa in Burleson County. (Doering). SOUTH DAKOTA - Adults remain plentiful in alfalfa in east central area. (Mast). MISSOURI - Counts 0.25-0.5 per sweep in alfalfa in southwest. (Munson, Thomas, Wood). DELAWARE - Larvae present on alfalfa statewide, but not in serious numbers. Highest counts in Sussex County averaged 2 per 10 sweeps. (Burbutis, Mason). MARYLAND - Larval populations light to moderate on alfalfa in Frederick County. (U. Md., Ent. Dept.).

ALFALFA WEBWORM (Loxostege commixtalis) - DELAWARE - Very heavy infestation noted in large field of alfalfa in Sussex County, with extensive feeding injury and webbing throughout field. Larvae present in several fields throughout State but not in injurious numbers. (Burbutis, Mason).

BEET WEBWORM (Loxostege sticticalis) - COLORADO - Larvae damaging seedling alfalfa; 1-2 larvae per plant in Saguache and Rio Grande Counties. (Colo. Ins. Sur.).

GARDEN WEBWORM (Loxostege similalis) - TEXAS - Ranged 5-10 per 5 sweeps in alfalfa in Burleson County. (Doering). MISSOURI - Counts in alfalfa in southwest ranged 1-2 larvae per sweep. (Munson, Thomas, Wood).

SNOWY TREE CRICKET (Oecanthus niveus) - OKLAHOMA - Counts in alfalfa in north central area around Stillwater ranged 0.1-0.5 per sweep. (Okla. Coop. Sur.).

GREEN CLOVERWORM (Plathypena scabra) - DELAWARE - All instars present in soybeans and alfalfa throughout State; feeding injury on soybeans becoming more noticeable, with counts ranging 1.5-4 per sweep. (Burbutis, Mason). MARYLAND - Light on soybeans in Worcester County. (U. Md., Ent. Dept.).

RED-NECKED PEANUTWORM (Stegasta basqueella) - OKLAHOMA - In several fields of peanuts in Caddo County, infestations ranged 0-51 per 100 terminals; and in Payne County counts averaged 28 per 100 terminals. (Okla. Coop. Sur.).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - GEORGIA - Light to heavy infestations on soybeans in southern area. (Johnson).

CABBAGE LOOPER (Trichoplusia ni) - GEORGIA - Light to heavy infestations on soybeans in southern area. (Johnson).

A STRIPED BLISTER BEETLE (Epicauta sp.) - LOUISIANA - Spotty infestations in late soybeans in Tensas Parish and on alfalfa in Caddo Parish. Moderate to heavy infestations in gardens and pastures in Red River Parish. (Spink).

BEAN LEAF BEETLE (Cerotoma trifurcata) - LOUISIANA - Ranged 6-82 and averaged 39 per 100 sweeps in soybeans in St. Landry Parish. (Spink). MARYLAND - Moderate injury to soybeans noted in Wicomico and Worcester Counties. (U. Md., Ent. Dept.).

MEXICAN BEAN BEETLE (Epilachna varivestis) - GEORGIA - Light to moderate infestations on soybeans in southern area. (Johnson).

BANDED CUCUMBER BEETLE (Diabrotica balteata) - LOUISIANA - Ranged 11-97 and averaged 41 per 100 sweeps in soybeans in St. Landry Parish. (Spink).

GARDEN FLEAHOPPER (Halticus bracteatus) - DELAWARE - Adults and nymphs noticeably increased on soybeans throughout State; counts averaged 2-3 per sweep. (Burbutis, Mason).

SOYBEAN CYST NEMATODE (Heterodera glycines) - ARKANSAS - Found for first time in Poinsett County during July. (PPC, So. Reg.).

SIX-SPOTTED LEAFHOPPER (Macrosteles fascifrons) - NORTH DAKOTA - Populations in flax now average 2-3 per sweep. No economic incidence of aster yellow disease reported this season. (N. D. Ins. Sur.).

FIELD CRICKETS - NORTH DAKOTA - Highest populations in several years present in eastern and northern counties. Numerous scattered infestations also reported from other sections. Control measures to protect flax from cricket injury underway in some areas. (N. D. Ins. Sur.). RHODE ISLAND - Nearly mature nymphs of Acheta sp. relatively light in Narragansett. (Hansen).

ADDITIONAL NOTES

IDAHO - PEA APHID (Macrosiphum pisi) numbers greatly reduced in alfalfa; predators many times more abundant than aphids. Populations in Cassia County fields generally below 1959 populations and predators holding infestations in check. Populations in Twin Falls County alfalfa higher where fields treated with a phosphate insecticide. Predators in such fields much lower than in untreated fields. SPIDER MITES (Tetranychus spp.) present in most clover and alfalfa seed fields; being reduced by phytoseiid mites. Few infestations in Jefferson County potatoes. However, incidence about 20 percent that of 1959. CORN LEAF APHID (Rhopalosiphum maidis) quite variable in late-planted spring grain in Jefferson County; numerous predators reducing infestations in some fields. Extremely high populations of an unspecified THRIPS in 200 acres of potatoes in south central area; severe damage occurring. Several fields in Power County also severely damaged, particularly around margins. However, in fields planted in long, narrow strips, damage evident throughout. (Waters, Portman, Schow, Cross). DOUGLAS-FIR BEETLE (Dendroctonus pseudotsugae) - Large groups of faded trees in Valley County in upper South Fork of Salmon River drainage. Damage centered near Goat Creek and along Four Mile Creek. Lesser infestations in Secesh River drainage near Split Rock Lookout. Damage exceeds that of any year since 1956. A record hot, dry season caused trees attacked last spring to fade noticeably by August 1. Ordinarily, trees do not fade before September 1; fading may be delayed over winter. Rapid fading provided unusual opportunity to assess current trend of damage. Observations indicate continuation of damage during 1960, presumably due in part to drying of phloem. Dryness and brood mortality most pronounced in smaller trees. Second-generation adults of a BRACONID (Coeloides brunneri) emerging from trees infested with D. pseudotsugae in Valley County. Large numbers of FLATHEADED WOOD BORERS (Melanophila drummondi and Buprestis rusticorum) attracted to felled Douglas-fir in same county. Also in Valley County, adults of a HORNTAIL (Urocerus californicus) flying near Douglas-firs infested with D. pseudotsugae; adults of a SCOLYTID (Scolytus sp., probably unispinosus) in flight and landing on stems of felled Douglas-fir. (Furniss).

MAINE - Moderate SALT-MARSH CATERPILLAR (Estigmene acrea) infestations causing moderate damage to vegetables in Monmouth area. EUROPEAN CORN BORER (Pyrausta nubilalis) moderate on untreated corn in same area; damage moderate. IMPORTED CABBAGEWORM (Pieris rapae) causing moderate damage to cabbage and other crucifers in Greene area. ELM LEAF BEETLE (Galerucella xanthomelaena) entering homes in Bangor area and moderate to severe damage to elms reported locally. (Boulanger).

FRUIT INSECTS

CODLING MOTH (Carpocapsa pomonella) - NEW JERSEY - Fresh stings found in apples in untreated orchards, indicating pest is still a potential problem. (Ins.-Dis. Newsl., Aug. 16). INDIANA - Adults emerging from cage in insectary August 15, containing apples originally infested with newly hatched larvae on July 18; period coincided with increased second-brood hatch in orchard in Vincennes area. Early third-brood larvae now hatching in the orchard; numbers likely to increase after August 22. (Hamilton, Aug. 15). Attack still at low level in Orleans area. (Marshall, Aug. 16). COLORADO - One to 3 percent of Bartlett pears "wormy" at harvest in Mesa County. (Colo. Ins. Sur.).

RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) - MICHIGAN - Second-brood larvae pupating at Grand Rapids, Sparta, South Haven, St. Joseph and Millburg. (Hutson, Aug. 16).

APPLE MAGGOT (Rhagoletis pomonella) - MINNESOTA - Adults remain active. (Minn. Ins. Rpt.). WISCONSIN - Continues to be caught in untreated apples, hickory and elm trees in Milwaukee and Dane Counties. Numbers caught daily ranged 1-12 in each tree during past 10 days, when counts were made. (Wis. Coop. Sur.).

APPLE APHID (Aphis pomi) - NEW JERSEY - Fair numbers present, primarily on new sucker growth not protected by previous controls. Can build up quite rapidly in present weather. (Ins.-Dis. Newsl., Aug. 16). MICHIGAN - Present in scattered orchards throughout State; little trouble with control. (Hutson, Aug. 16).

ORCHARD MITES - NEW JERSEY - Unspecified species continue a problem in some apple blocks, but appear under control in most cases. (Ins.-Dis. Newsl., Aug. 16). INDIANA - Panonychus ulmi and Tetranychus telarius activity still high in many orchards in Vincennes area; controls still needed. Mite populations heavy on Jonathans where midseason controls were omitted. (Hamilton, Aug. 15). Mites show no tendency to increase in Orleans area. (Marshall, Aug. 16). COLORADO - T. telarius being controlled in most Delta County apple orchards. (Colo. Ins. Sur.). UTAH - T. telarius congregating at bases of trees in some Weber County orchards. (Burningham).

PEACH TREE BORER (Sanninoidea exitiosa) - COLORADO - Appearing in some Delta County peach orchards; controls applied. (Colo. Ins. Sur.).

A SAP BEETLE (Carpophilus sp.) - CALIFORNIA - Heavy in peaches in Madera, Madera County. (Cal. Coop. Rpt.).

A PYRRHOCORID (Largus cinctus californicus) - CALIFORNIA - Heavy populations occurred on plum trees in Palermo, Butte County. (Cal. Coop. Rpt.).

PEAR-SLUG (Caliroa cerasi) - WYOMING - Heavily infesting cherry trees in Sheridan area, Sheridan County. (Fullerton).

PEACH SILVER MITE (Aculus cornutus) - COLORADO - Appearing in peach orchards in Mesa County, with little silvering taking place at present. (Colo. Ins. Sur.).

A PECAN CATOCALA (Catocala sp.) - NEW MEXICO - Defoliating pecan trees in nursery near Las Cruces, Dona Ana County. (N. M. Coop. Rpt.).

A FALSE SPIDER MITE (Brevipalpus sp.) - NEW MEXICO - Damaging foliage of pecan nursery stock in Dona Ana County. (N. M. Coop. Rpt.).

GRAPE BERRY MOTH (Paralobesia viteana) - MICHIGAN - Egg laying reached peak August 8-13 in Kalamazoo-New Buffalo-Cassopolis triangle, the principal grape-growing area in State. (Hutson, Aug. 16).

GRAPE LEAF FOLDER (Desmia funeralis) - SOUTH CAROLINA - Damaging grapes in Calhoun, Orangeburg and Lexington Counties. (Nettles et al.).

A GRAPE LEAFHOPPER (*Erythroneura* sp.) - NEW MEXICO - Heavy infestations damaging grape foliage throughout most of State. (N. M. Coop. Rpt.).

CITRUS BLACKFLY (*Aleurocanthus woglumi*) - MEXICO - Inspections in State of Sinaloa showed infestations to vary from light to heavy. Inspections at Hermosillo negative. At Allende, Nuevo Leon, 3 additional infested trees reported in a grove found infested in June. (PPC, Mex. Reg., July Rpt.).

MEXICAN FRUIT FLY (*Anastrepha ludens*) - MEXICO - During July, 9 adults trapped in Baja California; 7 in Tijuana and 2 in Ensenada. Spraying operations began in Ensenada on July 17 after trapping of adult there on July 13. Survey for larval infestations in fallen fruits at Tijuana and Ensenada was negative. (PPC, Mex. Reg.).

Citrus Insect Situation in Florida - Mid-August - PURPLE SCALE (*Lepidosaphes beckii*) activity declined and is in very low range. Populations and activity will remain at present level in all districts during next 2 months. FLORIDA RED SCALE (*Chrysomphalus aonidum*) activity still high, but downward trend which has begun will continue until mid-September. Populations during August have been higher than in previous years and will remain above average during next month. Highest activity is in Bartow, Ridge, Indian River, Orlando and upper east coast districts. Decreasing trend of CITRUS RED MITE (*Panonychus citri*) of past month will persist into September. Although populations generally will be in low range during next 6 weeks, a few groves may continue to harbor heavy infestations. CITRUS RUST MITE (*Phyllocoptiruta oleivora*) activity has declined since July and is expected to drop further during next month. Fewer groves will develop damaging infestations. Summer population peak for State occurred in early August at a level below average for previous years. Highest activity is in Ridge, Bartow, upper east coast, Brooksville and Orlando districts. (Simanton, Thompson, Johnson (Citrus Exp. Sta., Lake Alfred)).

TRUCK CROP INSECTS

GREEN PEACH APHID (*Myzus persicae*) - WASHINGTON - Unusually scarce on potatoes following 15 days of hot weather. (Landis). COLORADO - Populations increasing in untreated field of potatoes in Weld County, with 208 per 10 leaves; averaged 37.9 per 10 leaves in treated field in same county. (Colo. Ins. Sur.). MARYLAND - Populations generally light on peppers in Wicomico and Worcester Counties. (U. Md., Ent. Dept.). NEW JERSEY - Building up on peppers. (Ins.-Dis. Newsl., Aug. 16).

POTATO APHID (*Macrosiphum euphorbiae*) - COLORADO - Ranged 20-50 per 100 sweeps of potatoes in Saguache, Rio Grande, Alamosa, Conejos and Costilla Counties. (Colo. Ins. Sur.).

Potato Aphids in Maine - At Presque Isle, decreased slightly on untreated potatoes but continued to increase at substantial rate in commercial plantings treated with nonresidual insecticides. Populations now small in untreated potatoes of intermediate planting date, but vary from very small to moderate in commercial, treated fields, depending somewhat on length of time since treatment. BUCKTHORN APHID (*Aphis nasturii*) now predominates on untreated potatoes, followed by POTATO APHID (*Macrosiphum euphorbiae*) and GREEN PEACH APHID (*Myzus persicae*); in treated fields observed, *M. euphorbiae* and *M. persicae* predominate. Numbers of least-abundant FOXGLOVE APHID (*Myzus solani*) increased slightly in treated and untreated plantings. Abundance of dead aphids affected by fungus disease and parasites continued to increase. (Shands).

COLORADO POTATO BEETLE (*Leptinotarsa decemlineata*) - WASHINGTON - Eggs hatched about August 8 on potatoes where overhead sprinklers were used; defoliating plants. No appreciable hatch in potato fields where rill irrigation was used. Heavy damage occurred in 1 field. (Landis). WYOMING - Adults averaged 4 per

25 sweeps in each field of potatoes sampled in Park and Washakie Counties. (Fullerton). NORTH DAKOTA - Adults caused moderate defoliation in 1 field of potatoes near Cando, Towner County; averaged 3 adults per sweep. Populations generally light or nonexistent elsewhere. (N. D. Ins. Sur.).

FLEA BEETLES - Epitrix tuberis ranged 4-20 per 100 sweeps of potatoes in Mesa County. (Colo. Ins. Sur.). NORTH DAKOTA - Populations of unspecified species in Red River Valley remain high in untreated potatoes; 10-15 per sweep. Leaf injury severe at some locations. (N. D. Ins. Sur.). MINNESOTA - High numbers of Epitrix cucumeris reported in apparently untreated potato fields in north-west district. (Minn. Ins. Rpt.). WISCONSIN - Second-generation E. cucumeris has been very numerous in some untreated potato fields. Controls satisfactory when systemic insecticide was used earlier. Second-generation populations appear higher than usual. (Wis. Coop. Sur.).

POTATO TUBERWORM (Gnorimoschema operculella) - MARYLAND - Small larvae noted infesting eyes of recently dug potato tubers at a Wicomico County locality. (U. Md., Ent. Dept.).

LEAFHOPPERS - UTAH - Empoasca filamenta numerous on potatoes at Logan, Cache County. (Thornley, Knowlton). COLORADO - High numbers of Macrostelus fascifrons collected in light traps in Mesa and Otero Counties. Incidence of aster yellows 1-2 percent in field of potatoes in Larimer County. (Colo. Ins. Sur.). NORTH DAKOTA - Empoasca fabae ranged 3-20 per 10 sweeps in potatoes through Red River Valley and in Cando area of Towner County. "Hopperburn" not observed at any location. M. fascifrons ranged 2-5 per 10 sweeps in potatoes. (N. D. Ins. Sur.). SOUTH DAKOTA - E. fabae counts high in east central section; no damage observed. (Mast). MICHIGAN - Populations of Empoasca sp. building up at Stanton, Saginaw and Lansing. (Hutson, Aug. 16). DELAWARE - Adults and nymphs of E. fabae common on beans in most areas of State. (Burbutis, Mason).

LYGUS BUGS (Lygus spp.) - UTAH - Adults and nymphs numerous on potatoes at Ogden, Weber County. (Knowlton).

SPIDER MITES (Tetranychus spp.) - WASHINGTON - T. telarius caused damage to potatoes, dry beans and sugar beets. (Landis). OKLAHOMA - High populations of Tetranychus sp. on tomato plants in Stillwater area, Payne County, and in Pontotoc County. (Okla. Coop. Sur.).

TOMATO FRUITWORM (Heliothis zea) - COLORADO - Egg counts on tomatoes remain low in Prowers, Bent, Otero, Crowley and Pueblo Counties. (Colo. Ins. Sur.). DELAWARE - Adults common in fields of lima beans in Sussex County; some larval-feeding injury to pods noticeable. Larval populations in most fields still very light. (Burbutis, Mason). MARYLAND - Eggs common on pepper foliage at several locations in Worcester County. (U. Md., Ent. Dept.).

HORNWORMS (Protoparce spp.) - RHODE ISLAND - Mature larvae feeding on tomato at Kingston, Washington County. (Kerr). MARYLAND - Eggs common on pepper foliage at several locations in Worcester County. (U. Md., Ent. Dept.). INDIANA - Becoming scarce in tomato fields; P. sexta still predominant species. (Gould). UTAH - Damaging home garden tomato foliage in several localities in Cache County. (Knowlton).

EUROPEAN CORN BORER (Pyrausta nubilalis) - MARYLAND - Larvae increasing in peppers; 5 fields found lightly infested to date. (U. Md., Ent. Dept.).

A SAP BEETLE (Carpophilus sp.) - CALIFORNIA - Heavy in tomato fruit in Riverbank, Stanislaus County. (Cal. Coop. Rpt.).

A VINEGAR FLY (Drosophila hydei) - CALIFORNIA - Infesting tomato fruit in Fillmore, Ventura County; cantaloup dumps in Chico, Butte County; and orange culls in Manteca, San Joaquin County. (Cal. Coop. Rpt.).

CYCLAMEN MITE (Steneotarsonemus pallidus) - MICHIGAN - Limited infestation on peppers at Monroe, Monroe County; apparently came from greenhouse where peppers were grown. (Hutson, Aug. 16).

CABBAGE LOOPER (Trichoplusia ni) - DELAWARE - Larvae on carrots in New Castle County, squash in Kent County and peppers in Sussex County, causing light to moderate injury. Abundant in 1 field of tomatoes in New Castle County, with heavy feeding injury; eggs common in most fields of cabbage throughout State. (Burbutis, Mason). NEW JERSEY - This and Pieris rapae building up on cabbage. (Ins.-Dis. Newsl., Aug. 16). INDIANA - T. ni and P. rapae abundant and quite destructive to late cabbage in Tippecanoe County. (Gould). COLORADO - Larvae averaged 5-15 per 100 sweeps in potatoes in Rio Grande and Saguache Counties. (Colo. Ins. Sur.).

HARLEQUIN BUG (Murgantia histrionica) - OKLAHOMA - Moderate to high populations on home garden cabbage in Stillwater area, Payne County. (Okla. Coop. Sur.).

GARDEN SYMPHYLID (Scutigerella immaculata) - CONNECTICUT - Causing moderate injury to small field of horseradish in South Windsor, Hartford County. (Savos, Aug. 15).

SQUASH BUG (Anasa tristis) - INDIANA - Abundant in Scott and Jackson Counties and attacking commercial fields of canning pumpkins. More abundant in Tippecanoe County than for several years. (Gould).

A TORTOISE BEETLE (Cassida sp.) - LOUISIANA - Ranged 37-60, averaged 56, per 100 sweeps in sweetpotatoes in St. Landry Parish. (Spink).

CUCUMBER BEETLES - DELAWARE - Adults of Diabrotica undecimpunctata howardi present on beans throughout State; common on pumpkin squash in New Castle and Kent Counties, causing moderate feeding injury. (Burbutis, Mason). MARYLAND - D. undecimpunctata howardi and Acalymma vittata common and injuring foliage of late cucumbers in Worcester County. (U. Md., Ent. Dept.). LOUISIANA - D. balteata ranged 17-45 and averaged 31 per 100 sweeps in sweetpotatoes in St. Landry Parish. Larvae have caused considerable damage to 1960 crop. (Spink).

MEXICAN BEAN BEETLE (Epilachna varivestis) - NORTH CAROLINA - Caused about 10 percent defoliation of lima beans in Stokes County. (Whitford, Farrier). OHIO - Building up on late plantings in Washington County. (Stehr).

GREEN CLOVERWORM (Plathypena scabra) - DELAWARE - Larvae continue to build up on beans throughout State. Feeding injury light in most fields, but is moderate to moderately heavy in some fields in all counties. (Burbutis, Mason). MARYLAND - Light numbers of larvae noted on lima bean foliage at 1 Worcester County locality. (U. Md., Ent. Dept.).

THRIPS - WASHINGTON - An undetermined species attacking flowers of lima beans; appears to prevent pod set. (Landis).

PEA MOTH (Laspeyresia nigricana) - OREGON - Probably this species, heavily infesting peavine from Astoria south to Seaside, Clatsop County. (Capizzi).

BEET WEBWORM (Loxostege sticticalis) - WYOMING - Larvae averaged 5 per 100 plants in sugar beet fields sampled in Park and Washakie Counties. (Fullerton). COLORADO - Larvae on potatoes numbered 10-50 per 100 sweeps in Rio Grande and Saguache Counties. (Colo. Ins. Sur.). UTAH - Flights continue moderate to light traps at Ogden, Logan, Benjamin and Salem, in northern and central areas. (Knowlton).

BLISTER BEETLES (Epicauta spp.) - OHIO - Numerous on several hosts in Ross and Sandusky Counties. (Glass, Maddy).

ONION THRIPS (Thrips tabaci) - COLORADO - Averaged 10-20 per onion plant in Prowers, Bent, Otero, Crowley and Pueblo Counties. (Colo. Ins. Sur.).

A WEEVIL (Brachyrhinus cribricollis) - CALIFORNIA - Adults heavy in soil in artichoke gardens in Castroville, Monterey County. (Cal. Coop. Rpt.).

A NOCTUID (Proxenus mindara) - CALIFORNIA - Heavy larval population in strawberries in San Jose, Morgan Hill and Gilroy, Santa Clara County. Larvae boring into fruit, causing considerable loss by cullage. Damage has persisted since July. Det. by George Okumura. (W. Freeman, R. Inouye).

CUTWORMS - OREGON - Large numbers of Peridroma saucia and Agrotis ipsilon collected at blacklight trap in Linn County mint fields week of August 14. Collections averaging 1-3 nightly earlier in month, rose to 40-60. (Larson).

SLUGS - WYOMING - Deroceras sp. infesting many gardens and truck crops throughout the State. (Fullerton). OREGON - Arion ater causing considerable damage to vegetable and flower gardens in coastal area of Tillamook County, from Rockaway to Tillamook. (Capizzi).

TOBACCO INSECTS

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - MARYLAND - Very abundant and injurious to late tobacco in all tobacco-growing areas. (U. Md., Ent. Dept.).

TOBACCO BUDWORM (Heliothis virescens) - MARYLAND - Several light to moderate infestations noted on late tobacco in Charles County. (U. Md., Ent. Dept.).

HORNWORMS (Protoparce spp.) - MARYLAND - Eggs and small larvae light to moderate on late tobacco in Charles, Calvert and St. Marys Counties. (U. Md., Ent. Dept.).

GREEN PEACH APHID (Myzus persicae) - MARYLAND - Not a serious problem on tobacco, due to hot weather and heavy rains. (U. Md., Ent. Dept.).

GRASSHOPPERS (Melanoplus spp.) - OHIO - Damaging tobacco in Adams and Highland Counties (Mowbray, Stickley) and building up in Washington County (Stehr).

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - SOUTH CAROLINA - Average percent infestation in Piedmont counties was 26 in treated fields and 16 in untreated fields. Populations increasing generally. Third generation numerous and migration has moved into some upper Coastal Plain counties and lower Piedmont counties. (Cott. Lett., Aug. 16). GEORGIA - Square counts in Washington County ranged 12-99 and averaged 50 percent punctured squares. (Milner). ALABAMA - Emerged in large numbers in Tennessee Valley and Sand Mountain areas. Fields which showed light infestation prior to this time now running 25-50 percent infestation. (Arant). TENNESSEE - Migration underway in western area. Late, rank fields support heaviest infestations. Most damaging infestations below Jackson. Severe damage occurring in southern counties where migration to rank, succulent fields has occurred. Infestations in some fields as high as 96 percent punctured squares in Hardeman County. Boll damage expected if controls not applied. Counts in infested area averaged 36 percent infested squares, compared with 23 percent previous week. Infestations will continue to increase and migration to northern counties expected. Some damage occurring in Fort Pillow area of Lauderdale County. (Locke). MISSISSIPPI - Infestations generally low in delta counties. Some fields have high infestations, however, and local movement from field to field expected. Weevil activity should increase if showery conditions persist. (Merkl et al.). LOUISIANA - Average percent square infestation by parishes was as follows: Caldwell - 12; Ouachita - 15 and 10; Richland - 8 and 19; Morehouse - 4 and 18; Tensas - 10; Franklin - 15. Some migration reported; light to medium infestations reported in St. Landry Parish. (Spink). Average infestation 19 percent

in Tallulah area. (Smith et al.). ARKANSAS - Activity increasing; third-generation emergence general. Total of 6,953 fields scouted; 4,316 treated; 92.4 percent of fields scouted infested. (Ark. Ins. Rpt.). MISSOURI - Eleven percent of fields infested with percent punctured squares 0-60. (Munson, Thomas, Wood). OKLAHOMA - Populations declined in dryland cotton. Infestations in Grady County dropped to less than 4 percent in several fields. Populations in Payne County continued to decline below 3 percent. Infestations in irrigated cotton in southwest increased slightly (to 15 percent) over past week. Eastern area counts ranged 40-60 percent. (Okla. Coop. Sur.). TEXAS - Infestations averaged 30.6 percent punctured squares in 7 treated fields and 71.8 percent in 6 untreated fields in McLennan and Falls Counties. (Parencia, Cowan, Davis). Infestations ranging light to heavy and continue to cause concern in some areas of State. (Gaines, Aug. 16).

BOLLWORMS (*Heliothis* spp., et al.) - SOUTH CAROLINA - Moth and larval activity continues strong in most reporting counties. Extensive damage reported from Saluda County. Peak emergence of moths appeared at Florence. Infestations appear to be spotty throughout State, but generally present. (Cott. Lett., Aug. 16). GEORGIA - Egg counts in Washington County ranged 50-197 and averaged 134 per 100 terminals. (Milner). ALABAMA - Infestations of large numbers in all fields examined. (Arant). TENNESSEE - Increased considerably in rank cotton in western area. Infestations heavier in boll weevil-infested area. Controls needed in many fields of late cotton. (Locke). MISSISSIPPI - Moth activity remains high, but below peak of previous week. Infestations in fields in delta counties extremely spotty. Heavy egg deposition reported in some irrigated fields. Most succulent fields need protection. (Merkl et al.). LOUISIANA - Average percent square infestation by counties was as follows: Caldwell - 8; Ouachita - 7 and 3; Richland - 4 and 1; Morehouse - 6 and 10; Tensas - 2; Franklin - 4. Heavy deposits of eggs continued on vigorous-growing cotton; medium infestations reported from Red River and heavy infestations from St. Landry Parish. (Spink). Average square infestation in Tallulah area 5 percent. Eggs averaged 5 and larvae 2 per 100 terminals. (Smith et al.). ARKANSAS - Fourth-generation moth emergence continues heavy; egg and larval counts high, especially in cotton with succulent growth. (Ark. Ins. Rpt.). MISSOURI - Sixty-four percent of fields scouted infested with 0-14 eggs and 0-18 larvae per 100 terminals. (Munson, Thomas, Wood). OKLAHOMA - Populations showed general increase; oviposition relatively heavy where cotton attractive. In south central area, average larval infestations rose to 17.5 percent in several fields in Grady County. Counts in Payne County lower, averaging 5 percent. In untreated areas in southwest, counts slightly higher than previous week, ranging up to 25 percent. (Okla. Coop. Sur.). TEXAS - Injurious infestations continue to occur in succulent cotton in McLennan and Falls Counties. (Parencia, Cowan, Davis). Infestations range light to heavy and continue to cause concern in some sections. (Gaines, Aug. 16). NEW MEXICO - Populations heavy in many fields in Chaves, Eddy, Lea, Luna and Dona Ana Counties; many growers treating. (N. M. Coop. Rpt.). CALIFORNIA - Heavy populations occurring on cotton in Old River and in Button-willow and Pond, Kern County. (Cal. Coop. Rpt.).

PINK BOLLWORM (*Pectinophora gossypiella*) - ARIZONA - Cumulative acreage treated in course of May 17-July 25 aerial and ground insecticide program was 283,028. Acreage by counties was 131,667 in Maricopa, 18,025 in Pima, 132,389 in Pinal and 947 in Santa Cruz. (PPC, West. Reg.; July Rpt.). FLORIDA - One larva found in bolls of dooryard cotton removed from location just north of Homestead, Dade County, during July. This is first specimen collected from dooryard cotton since 1957. (PPC, So. Reg.).

COTTON SQUARE BORER (*Strymon melinus*) - CALIFORNIA - Light population damaging cotton in McFarland, Kern County. (Cal. Coop. Rpt.).

CABBAGE LOOPER (*Trichoplusia ni*) - SOUTH CAROLINA - Continues to rag cotton in Coastal Plain. (Cott. Lett., Aug. 16). GEORGIA - Light to heavy infestations in southern area. (Johnson). TENNESSEE - Light to heavy infestations in rank cotton over western area; all fields not infested, however. Controls needed in many fields. (Locke). MISSISSIPPI - Ragging cotton in some areas of delta

counties. Control difficult due to their feeding on lower leaves. Irrigated cotton seems more attractive. (Merk1 et al.). ARKANSAS - Appearing in many fields; controls applied in 22 fields for this pest. (Ark. Ins. Rpt.). OKLAHOMA - Infestations very light in all areas. Light oviposition observed in Grady County where first-instar larval counts averaged 0.5 per 100 plants. (Okla. Coop. Sur.). TEXAS - Causing damage in some sections. (Gaines, Aug. 16). NEW MEXICO - Heavy infestations in several fields in Chaves County. (N. M. Coop. Rpt.). CALIFORNIA - Heavy populations on cotton in Old River, Kern County. (Cal. Coop. Rpt.).

COTTON LEAFWORM (Alabama argillacea) - ARKANSAS - Appearing in some cotton fields. (Ark. Ins. Rpt.). TEXAS - Causing damage in some sections. (Gaines, Aug. 16).

WESTERN YELLOW-STRIPED ARMYWORM (Prodenia praefica) - CALIFORNIA - Heavy population occurring on cotton in Wasco, Kern County. (Cal. Coop. Rpt.).

BEEET ARMYWORM (Spodoptera exigua) - ARIZONA - Light to medium infestations continue to require control in cotton in Picacho area of Pinal County and in Marana area of Pima County. (Ariz. Coop. Sur.).

SALT-MARSH CATERPILLAR (Estigmene acrea) - ARIZONA - Light infestations present throughout central and southwest areas, with characteristic "flag leaf" showing up in all areas. (Ariz. Coop. Sur.).

COTTON LEAF PERFORATOR (Bucculatrix thurberiella) - ARIZONA - Infestations general and heavy in Yuma County, with heavy foliage damage in many areas. Extremely large numbers of adults being picked up in light traps in county. Some areas of Pinal County also becoming heavily infested, while Maricopa County infestations are lighter, but increasing in some fields. (Ariz. Coop. Sur.).

LYGUS BUGS (Lygus spp.) - NEW MEXICO - Light to moderate in cotton in southern counties. (N. M. Coop. Rpt.). ARIZONA - Counts remain high in Maricopa, Pinal, Pima and Yuma Counties; particularly in untreated fields where 40-60 percent of squares punctured in many cases. Counts in southeast average 12-15 per 100 sweeps. (Ariz. Coop. Sur.).

COTTON FLEAHOPPER (Psallus seriatus) - ARIZONA - Infestations continue heavy in many untreated fields of cotton in Maricopa and Pinal Counties. (Ariz. Coop. Sur.).

STINK BUGS (primarily Chlorochroa sayi) - ARIZONA - Heavy infestation in 90-acre field of cotton in Bonita area of Graham County. Light, but increased numbers present, throughout cotton-growing areas. (Ariz. Coop. Sur.).

PLANT BUGS - MISSOURI - Seventy-three percent of fields scouted infested, with 0-23 Adelphocoris rapidus, Lygus lineolaris and Psallus seriatus per 100 terminals. (Munson, Thomas, Wood).

APHIDS - SOUTH CAROLINA - Appearing in maturing cotton in all areas, some controls being applied. (Cott. Lett., Aug. 16). GEORGIA - Light infestations of Aphis gossypii in southern area. (Johnson). TENNESSEE - Aphids range light to heavy in fields treated for boll weevil and bollworms in western area. (Locke). ARKANSAS - Activity increased. (Ark. Ins. Rpt.). NEW MEXICO - A. gossypii generally light in Chaves County and light and spotty in Luna and Dona Ana cotton. (N. M. Coop. Rpt.).

SPIDER MITES - GEORGIA - Light to moderate infestations on cotton in southern area. (Johnson). ALABAMA - Infestations not increasing or spreading to any great degree. (Arant). TENNESSEE - Causing cotton to mature in many fields not controlled. Infestations will continue to spread in western area if controls not applied. Six species of mites identified as damaging in cotton in western area. (Locke). LOUISIANA - Light infestations in St. Landry Parish and medium to heavy in Red River Parish. (Spink). Counts 1.48 and 3.54 per square inch in

2 fields in Tallulah area. (Smith et al.). ARKANSAS - Activity increased. (Ark. Ins. Rpt.). MISSOURI - Forty-six percent of fields scouted had infestations. (Munson, Thomas, Wood).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

BARK BEETLES - CALIFORNIA - Nearly 1,000 acres of Coulter pines in Cleveland National Forest infested by Dendroctonus brevicomis; 150 trees dying in Lost Valley and 300 trees in 10,000-acre stand in Palomar Mountain-Aqua Tibia-Mendenhall Valley area infested. (J. Pierce). An estimated 150 sugar pines and Jeffrey pines infested by D. monticolae and D. jeffreyi; young and mature trees infested in 5,000-acre stand in Sequoia National Forest; damage extends into National Park area. (J. V. Flynn). Scolytus unispinosus killing estimated 12,050 young Douglas-firs in Alderpoint, Humboldt County; damage associated with fire logging and some windthrows. (L. Squires). INDIANA - Heavy infestation of Monarthrum fasciatum in dying pin oak at West Lafayette. (Schuder).

ROUNDHEADED WOOD BORERS (Romaleum spp.) - ALABAMA - Heavy damage to large oak trees in Mobile. (Arant).

ASIATIC OAK WEEVIL (Cyrtepidomus castaneus) - MARYLAND - Common at lights in southern sections. (U. Md., Ent. Dept.).

SAWFLIES - MINNESOTA - Heavy defoliation of jack pine by Neodiprion lecontei along Highway 23 south of Fond du Lac and 10 percent infestation in plantation near Garrison. Light populations of Diprion similis in Pine County. Pikonema alaskensis feeding about complete. Some late instars persisting but not feeding actively. (Minn. Ins. Rpt.).

SATIN MOTH (Stilpnotia salicis) - CALIFORNIA - Adults taken at a light in Hornbrook, Siskiyou County. This is a considerable distance from previous locations where moth was taken. (S. Friedman).

DOUGLAS-FIR CONE MOTH (Barbara colfaxiana) - CALIFORNIA - Damaging Douglas-fir cones in Shasta-Trinity Forest, Butter Creek area; indications of heavy infestation this year. (K. M. Estes).

FALL WEBWORM (Hyphantria cunea) - MINNESOTA - Generally distributed in northeastern counties, feeding on various deciduous trees and shrubs such as cherry, ash, willow, poplar and alder. Heavy infestation on alder noted near Mountain Iron. (Minn. Ins. Rpt.). NORTH DAKOTA - Infestations, though light, becoming more conspicuous over a wide area. (N. D. Ins. Sur.). NORTH CAROLINA - Heavy infestation on deciduous trees in Chatham, Randolph and Catawba Counties. (Wray). Some trees almost completely defoliated. (Farrier). VERMONT - Damaging maples in Grand Isle. (MacCollom). TEXAS - Webs beginning to form on trees in several counties of north central and east areas. (Hawkins).

SADDLED PROMINENT (Heterocampa guttivitta) - VERMONT - Damaging maples in Grand Isle. (MacCollom).

A NOTODONTID (Gluphisia septentrionis) - SOUTH DAKOTA - Attacking poplars in Sioux Falls area, Minnehaha County. (Mast).

ELM LEAF BEETLE (Galerucella xanthomelaena) - OKLAHOMA - Continued damage statewide; particularly severe in Canadian, Grady, Kay and Caddo Counties. (Okla. Coop. Sur.). CALIFORNIA - Heavy populations on elms in Salinas, Monterey County; in Bishop, Inyo County; and Benton, Mono County. (Cal. Coop. Rpt.). WASHINGTON - Less damage than for several years. (Landis).

ALDER FLEA BEETLE (Altica ambiens) - CALIFORNIA - Heavy populations of adults on trees and shrubs in Palm Springs, Riverside County. (Cal. Coop. Rpt.).

CARPENTERWORMS - NORTH DAKOTA - Heavy attack of undetermined species on a 2-acre planting of ash near Killdeer, Dunn County. (N. D. Ins. Sur.). CALIFORNIA - Medium infestation of Prionoxystus robiniae on elm trees in Pleasant Grove, Sutter County. (Cal. Coop. Rpt.).

MIMOSA WEBWORM (Homadaula albizziae) - NORTH CAROLINA - On mimosa in Carteret County. (Williams, Farrier). Heavy on mimosa in Davie, Iredell and Wilkes Counties. (Wray). DELAWARE - Second-generation larvae on mimosas in Kent and Sussex Counties. (Burbutis, Mason). MARYLAND - Severe on mimosa and honeylocust over State. (U. Md., Ent. Dept.).

BAGWORM (Thyridopteryx ephemeraeformis) - ALABAMA - On deodar cedars in Mobile. (Arant). OKLAHOMA - Continued reports of damage to evergreens statewide. (Okla. Coop. Sur.). DELAWARE - Larvae in most areas on cedar, mimosa, spruce and arborvitae almost completed development. (Burbutis, Mason).

CATALPA SPHINX (Ceratonia catalpae) - INDIANA - Defoliating catalpa trees in Tippecanoe and White Counties. (Schuder).

WALNUT CATERPILLAR (Datana integerrima) - WISCONSIN - Third-instar larvae nearly defoliated some walnut trees in Grant County. (Wis. Coop. Sur.).

WHITE-MARKED TUSsock MOTH (Hemerocampa leucostigma) - WISCONSIN - Feeding commonly on willow and birch in Dane County but parasites apparently have reduced the insect's feeding. (Wis. Coop. Sur.).

APHIDS - NEW JERSEY - An aphid prevalent on willows in many areas of New Jersey. Heavy infestations in Bergen, Middlesex and Atlantic Counties. (Ins.-Dis. Newsl.). OKLAHOMA - Heavy infestation of an unidentified aphid on elms in Chandler area, Lincoln County. (Okla. Coop. Sur.). DELAWARE - Several species of aphids heavily infesting roses in Kent and New Castle Counties. (MacCreary).

MITES - NEBRASKA - An eriophyid mite causing russetting of honeylocusts in North Platte. (Pruess). NORTH DAKOTA - A mite on evergreen foundation plantings continues to be reported from many sections. (N. D. Ins. Sur.). VERMONT - A mite caused browning of ornamental evergreens in South Burlington. (MacCollom). NEW JERSEY - Heavy infestations of undetermined mites in chrysanthemum flower heads in Vineland area, Cumberland County. (Ins.-Dis. Newsl.). MARYLAND - Spider mites severe on English boxwood at Laurel, Prince Georges County. (U. Md., Ent. Dept.).

LACE BUGS - OKLAHOMA - High populations of an unidentified species on maple and sycamore trees in Stillwater, Payne County. (Okla. Coop. Sur.). DELAWARE - Corythucha ciliata very abundant on sycamores in areas of Sussex County and causing speckling of leaves. (Burbutis, Mason). NORTH CAROLINA - Heavy infestations of C. ciliata on sycamore in Jackson County. (Wray).

A BULB FLY (Eumerus narcissi) - CALIFORNIA - Heavy infestation in narcissus bulbs in Smith River, Del Norte County. (Cal. Coop. Rpt.).

SCALE INSECTS - CALIFORNIA - Heavy population of Parlatoria oleae on privet in Woodland, Yolo County. Medium infestation of Lepidosaphes concolor adults on Isomeris sp. in Santa Paula, Ventura County. (Cal. Coop. Rpt.).

IRIS BORER (Macronoctua onusta) - INDIANA - Heavy infestation found in local nursery at Vincennes, August 13. (Hamilton).

A BANANA APHID (Pentalonia nigronervosa) - DISTRICT OF COLUMBIA - All stages numerous on stems of Caladium bicolor growing from two tubers in a pot indoors, Aug. 7. Det. M. D. Leonard. This is apparently the second United States record of the species on this host plant, the other having been collected August 8, 1957, on Caladium sp. from Jenks, Tulsa County, Oklahoma, and det. by L. M. Russell. (M. D. Leonard).

INSECTS AFFECTING MAN AND ANIMALS

FACE FLY (Musca autumnalis) - MINNESOTA - On livestock in Fillmore County and on cattle in Olmsted County. Det. E. Cook. First report of State. (Minn. Ins. Rpt.). ILLINOIS - Remains the number one pest on livestock. Counts in northern half of State averaged 40 flies per head and ranged 20-129 per head. A frequent occurrence of runny-eyed conditions and eye diseases observed among cattle infested with face flies. (Ill. Ins. Rpt.). VERMONT - Populations remain high over State. (MacCollom). NORTH CAROLINA - Not abundant enough to be detectable on faces of cattle in Wilkes, Rockingham and Stokes Counties. (Farrier).

SCREW-WORM (Callitroga hominivorax) - LOUISIANA - First authenticated reports of year received this week. One infested animal intercepted at Warnerton, Washington Parish. Two interceptions of 5 animals made at Delta, Madison Parish. All animals originated out-of-State. This report includes all positive cases through July 31, 1960. (Spink).

MOSQUITOES - CALIFORNIA - Populations of Culex tarsalis and other mosquitoes fluctuated. There was a slight general increase over the State, with the highest rise being in southern area. (Vect. Cont.). UTAH - C. tarsalis population up slightly in Weber County since its peak of July 19. Aedes dorsalis, A. nigromaculis, Culiseta inornata populations generally low. Control applied. Mosquitoes numerous in Cache County meadows and about towns; some annoyance in Delta area of Millard County. (Fronk, Knowlton). TEXAS - Aedes sollicitans in small numbers in Port Arthur; A. taeniorhynchus in moderate numbers in Port Arthur, Groves and other areas of Jefferson County; A. vexans increased throughout area, while Psorophora confinnis has decreased. Anopheles quadrimaculatus increased considerably and more numerous than at any time during the last several years. (Jeff. Co. Mosq. Cont. Comm.). ALABAMA - Aedes sollicitans extremely numerous in all coastal areas. (Arant). WISCONSIN - Continuing to breed but not as annoying as last week. Culex salinarius continues to be the chief mosquito pest around homes. (Wis. Coop. Sur.). DELAWARE - A total of 221 males and 371 females of Anopheles quadrimaculatus found on red artificial resting box, Bombay Hook Refuge, August 15 through 18. (Burbutis, Mason). MARYLAND - Aedes sollicitans populations continue abundant and annoying on lower Eastern Shore but declining somewhat over previous weeks. A. vexans very annoying in Prince Georges County. (U. Md., Ent. Dept.). DISTRICT OF COLUMBIA - Aedes atlanticus collected on forehead of person, August 14, by Helen Sollers. Species relatively uncommon in the District. Det. by A. Stone. (Sollers).

HORN FLY (Siphona irritans) - ILLINOIS - Counts ranged 0-150 per animal in northern area. Infestation somewhat lower than normal, but most herds probably being treated. (Ill. Ins. Rpt.). ALABAMA - Heavy infestations over State. (Arant). UTAH - Serious problem in some Weber and Box Elder County cattle herds. Annoying livestock in Beaver, Garfield, Sanpete and Sevier Counties. (Knowlton).

A BLACK FLY (Simulium venustum) - NORTH CAROLINA - Annoying in Watauga County. (Wray).

TABANIDS - LOUISIANA - Heavy infestations of Tabanus sp. on cattle in St. John the Baptist and Red River Parishes. (Spink). OKLAHOMA - High populations of Tabanus spp. in some areas of Lincoln County. Tabanus sp., T. abactor and T. sulcifrons averaged 2.5 per animal in wooded areas of Payne County. (Okla. Coop. Sur.). UTAH - Tabanids annoying horses at Garden City, Rich County, and in Benson meadows in Cache County. (Knowlton).

STABLE FLY (Stomoxys calcitrans) - ILLINOIS - Counts averaged 2 per animal in northern area. (Ill. Ins. Rpt.). OKLAHOMA - Populations remained constant in Stillwater area. (Okla. Coop. Sur.).

FLEAS - MARYLAND - Annoying animals and humans at several localities in central counties. (U. Md., Ent. Dept.).

BROWN DOG TICK (Rhipicephalus sanguineus) - OKLAHOMA - Continuing to cause concern in houses in Stillwater area. (Okla. Coop. Sur.). OHIO - Infestation in home in Franklin County. (Blair).

STORED-PRODUCT INSECTS

KHAPRA BEETLE (Trogoderma granarium) - ARIZONA - Four infestations found during July; all were U. S. Department of Agriculture, Forest Service, Ranger Station corrals. Two of these infestations were in Yavapai County and 1 each in Gila and Maricopa Counties. Estimated volume of the 4 properties is 63,000 cubic feet. (PPC, West. Reg.; July Rpt.).

Stored-grain Insects in Texas - In stored milo, infestations of LESSER GRAIN BORER (Rhyzopertha dominica) were light in Castro and Lubbock Counties; SAW-TOOTHED GRAIN BEETLE (Oryzaephilus surinamensis) medium in Castro County; and RICE WEEVIL (Sitophilus oryza) light in Castro County. (Texas Coop. Rpt.).

BENEFICIAL INSECTS

LADY BEETLES - COLORADO - Hippodamia sp. reduced aphid population on barley in 1 field in Rio Grande County to level where no control was needed. (Colo. Ins. Sur.). WYOMING - Hippodamia sp. adults averaged 3 per sweep in each field of alfalfa and potatoes sampled in Big Horn Basin. (Fullerton). WISCONSIN - Appear to be particularly abundant. These predators, chiefly in corn and alfalfa, in order of relative abundance, are: Hippodamia parenthesis, H. convergens, H. tredecimpunctata, Cycloneda munda, Coccinella novemnotata, Adalia bipunctata, Chilocorus stigma, Anisostecta strigata and Stethorus vagans. (Wis. Coop. Sur.).

NABIDS (Nabis spp.) - WYOMING - Averaged 4 adults per 25 sweeps in alfalfa and potato fields sampled in Big Horn Basin. (Fullerton). COLORADO - Populations of N. ferus increased in potato fields in Weld County from 25 to 50 per 100 sweeps. (Colo. Ins. Sur.). WISCONSIN - Are particularly abundant, especially in corn and alfalfa. (Wis. Coop. Sur.).

LACEWINGS (Chrysopa spp.) - WISCONSIN - Populations are abundant, especially in corn and alfalfa. (Wis. Coop. Sur.).

PARASITES - WISCONSIN - Various parasites frequently noted, principally in corn and alfalfa, include Ophion spp., Apanteles spp., Trichogramma minutum and Lydella grisescens. (Wis. Coop. Sur.).

HONEY BEE (Apis mellifera) - CALIFORNIA - Inspection of 102,209 colonies indicates American foulbrood disease is present in 2,771 colonies; apiaries inspected totaled 2,826, with the disease present in 605. (Cal. Coop. Rpt.).

ALKALI BEE (Nomia melanderi) - WYOMING - Activity almost stopped in Fremont County in alfalfa seed-producing areas. (Fullerton).

MISCELLANEOUS INSECTS

JAPANESE BEETLE (Popillia japonica) - Adult prevalence throughout MAINE, NEW HAMPSHIRE and VERMONT declined considerably. Airfields continued to be checked, with negative results. Except in Concord, Keene and Walpole, New Hampshire, where heavy adult concentrations were observed, fewer numbers and lighter feeding were reported during 1960 than in 1959. (PPC). Adult feeding still severe in Burlington area of Vermont, particularly on grapes and roses. (MacCollom). Medium to heavy populations present at airports at Meriden, Bridgeport, Danbury, Waterford and Trumbull, CONNECTICUT, and light to medium at

Windham Airport. In MASSACHUSETTS, heavy populations exist at Otis AFB and at the private field at Palmer; populations at 21 other airports inspected were very light or negative. Populations in RHODE ISLAND were very light at Hillsgrove, Newport and Quonset Naval Base. All other airports in Connecticut-Massachusetts-Rhode Island were negative. Foliage treatment and aerosoling, or both where necessary, are being used at all airports where beetles were found. Adult population rapidly declining in PENNSYLVANIA. Practically no adult activity at Port Erie Airport in western area of State. At Greater Pittsburgh Airport, 3 adults were removed from passengers before entering planes; numerous beetles observed on roses in front of Administration Building. No hazard at Williamsport Airport or Olmsted AFB, in central part of State, and controls suspended. Aerosoling and foliage treatment terminated in eastern part of State August 16. (PPC). Specimen collected on airline flight at Tampa International Airport, Hillsborough County, FLORIDA, on July 19 by C. H. Lynch. Det. by R. E. Woodruff. Female specimen was taken alive in baggage compartment of a plane at Miami International Airport, Dade County, on August 5 by H. L. Brandt. Det. by W. Breidenbach. (Fla. Coop. Sur.).

EUROPEAN CHAFER (Amphimallon majalis) - NEW YORK - An estimated 10,000 additional acres found infested in upstate area during summer by scouting and trapping activities. Extensive additions noted at Elmira and Southport, Chemung County; at Lockport and Niagara Falls, Niagara County; and in Buffalo, Erie County. Infestation at Southport approximately $4\frac{1}{2}$ miles north of Pennsylvania State line. Also, an additional site found infested at Chittenango, Madison County. NEW JERSEY - Delimiting surveys in Caven Point area of Hudson County show that infestation extends westerly from Caven Point to exits A, B and C along New Jersey Turnpike Extension. Nurseries and other sites inspected in Atlantic, Cumberland, Gloucester and Monmouth Counties were negative. CONNECTICUT - Specimens caught in nets at Meriden infestation. WEST VIRGINIA - Trapping operations conducted June 9-July 16 in Capon Bridge were negative. (PPC, East. Reg., July Rpt.).

ORIENTAL BEETLE (Anomala orientalis) - FLORIDA - Collected from plane at Tampa International Airport, Hillsborough County, on July 20 by R. G. Racine and C. H. Lynch. (Fla. Coop. Sur.).

STRAWBERRY ROOT WEEVILS - NORTH DAKOTA - Reports of adults of unspecified species entering homes in eastern section of State appear more numerous this year. (N. D. Ins. Sur.).

VARIEGATED CUTWORM (Peridroma saucia) - ARIZONA - Large adult numbers a problem around homes in some areas of Navajo and Apache Counties. (Ariz. Coop. Sur.).

VESPIDES - RHODE ISLAND - Many complaints concerning elimination of nests of various species. (Mathewson). DELAWARE - Vespa spp. unusually abundant this year; causing considerable annoyance. (Burbulis, Mason).

WESTERN HARVESTER ANT (Pogonomyrmex occidentalis) - OKLAHOMA - In Harper County, colony density is 104 per mile of highway roadside, an increase over same area in 1959. (Okla. Coop. Sur.).

EUROPEAN EARWIG (Forficula auricularia) - RHODE ISLAND - Adults relatively scarce in Narragansett area. Few complaints received from elsewhere. (Hansen). UTAH - Numerous at Kanab and becoming commoner pest elsewhere in Kane County. (Knowlton).

A FIELD CRICKET (Acheta sp.) - NEBRASKA - Large populations migrating to buildings in Lincoln, Lancaster County. (Kantack).

CORRECTION

CEIR 10(34):792 - NABIDS (Nabis spp.) - COLORADO - N. feris should read N. ferus.

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Laphyg. frug.	Prod. ornith	Trich. ni	Perid. saucia	Heliothis zea vires.
ALABAMA						
Auburn 8/16,19	7	39	15	28		560 6
ARKANSAS						
Hope 8/4-17	37				4	81
*Morrilton 8/4-17	27					158
Kelso 8/4-10	7					27
Fayetteville 8/4-17	19					217
CALIFORNIA						
Davis 8/10-16	131			51	8	67
FLORIDA						
Gainesville 8/9						10
Quincy 8/1						63 4
ILLINOIS						
Urbana 8/12-18	83	9	15	13	23	10
INDIANA (Counties)						
Lawrence 8/9-13,15	96		46			3
Tippecanoe 8/12-17	23		7			
Vanderburgh 8/11-16	240		58			38
LOUISIANA						
Baton Rouge 8/12-18	6	2,029	51	9		119
Franklin 8/18	2		22			79
Tallulah 8/19	40		44	33		84 1
MAINE						
Monmouth 8/14-20	2					
MARYLAND						
Fairland 8/1-9	16				2	7
MISSISSIPPI						
*Stoneville 8/12-18	443		126	1,151	1	449 24
MISSOURI						
Sikeston 8/13-19	25				1	549
NEW JERSEY (County)						
Burlington 8/18,22	118		64			157
SOUTH CAROLINA						
Charleston 8/15-21	7	447	70	45		416 18
TENNESSEE (County)						
Blount 8/9-15	6		40		4	12
TEXAS						
Waco 8/13-19	74		146	3,379	115	2,040 21
WISCONSIN						
*Janesville 8/9-15	39					
Platteville 8/9-12	2				1	

* Two traps - Morrilton, Stoneville, Janesville.

LIGHT TRAP COLLECTIONS - continued

	Pseud. unip.	Laphyg. frug.	Prod. ornith	Trich. ni	Perid. saucia	Heliothis zea vires.
WISCONSIN						
Middleton 8/9-15	3				1	
*Arlington 8/9-15	57				25	
*Theresa 8/9-15	23					
Oakfield 8/9-15	11					
Antigo 8/9-15	8				6	

Additional Collections

CALIFORNIA - (Davis - 8/10-16); Spodoptera exigua - 2,662.

* Two traps - Arlington; 3 traps - Theresa.

HAWAIIAN INSECT NOTES

A NITIDULID (Conotelus mexicanus Murray) was reported by F. A. Bianchi as being collected on Sida spp. at Pahala, Hawaii, on June 21. This insect was reported from Oahu in March 1955, and its collection on the island of Hawaii constitutes a new island record. Mr. Bianchi also reported on an unidentified HIPPOBOSCID which he found on his own person immediately after handling a native owl (Assio flammeus sandwichensis) at Grove Farm Plantation, Kauai, on June 30. The ENCYRTID reared from Antonina graminis (reported in CEIR 10 (31):723) was identified by the U. S. National Museum as Dusmetia sangwani Rao. This species was introduced into Texas from India in 1958. It is not known how it entered Hawaii. (Hawaiian Entomological Society, August 8, 1960, meeting).

STATUS OF SOME MORE IMPORTANT INSECTS IN THE UNITED STATES

CARROT RUST FLY (Psila rosae (F.))

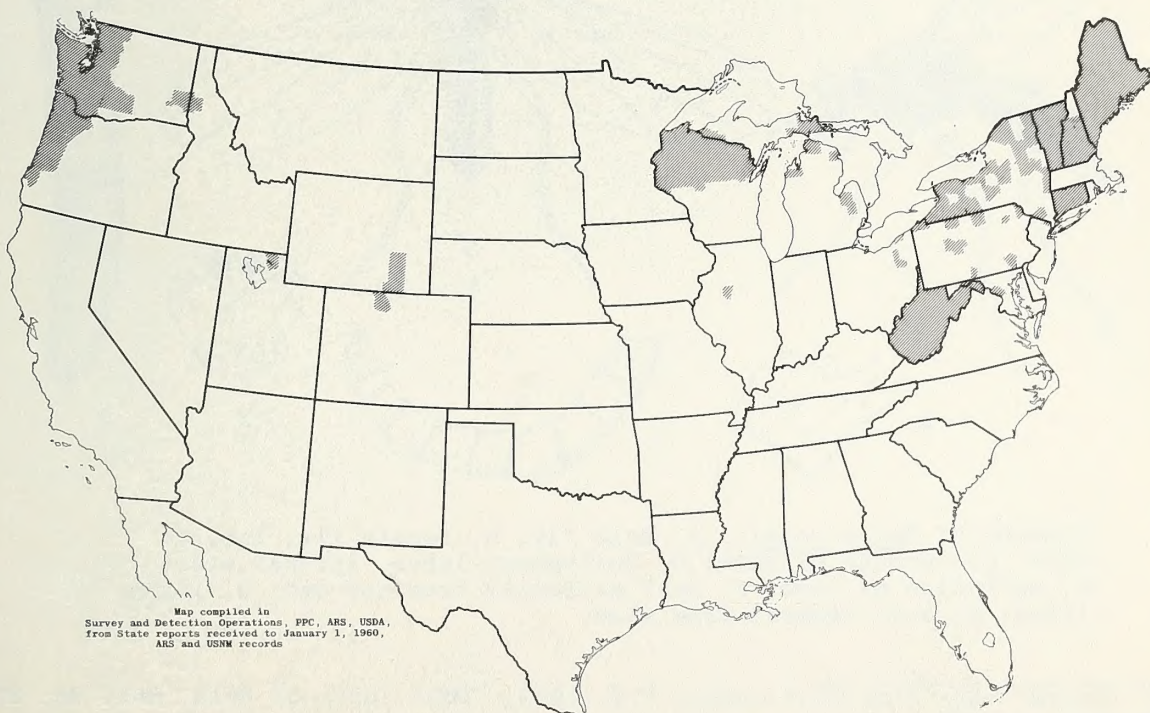
Economic Importance: This insect, known as a pest in Europe, was first discovered in North America in 1885 at Ottawa, Canada. Its initial occurrence in the United States was reported from Somerset County, Maine, in 1893. On occasion, it is locally serious on umbelliferous crops. Injury to carrots and parsnips invariably occurs below the soil surface. First larval feeding causes narrow, rust-colored furrows and irregular areas in the outer epidermis, and later small round tunnels are made through the root. Small carrots may be killed when feeding cuts off the hair roots and by the entrance of fungus rots into the larval tunnels. More often the plants are stunted temporarily and develop into bulbous and "many-legged" carrots when growth is resumed. Celery and parsley plants may be stunted when the roots are eaten. Occasionally tunnels are made through the fleshy stems above ground.

Distribution: Austria, Australia, Canada, Czechoslovakia, Denmark, Finland, France, Germany, Great Britain, Italy, Latvia SSR, Netherlands, New Zealand, Norway, Poland, Sweden, Switzerland and the United States (see map).

Hosts: Carrot is the preferred host and only members of the family Umbelliferae are known to be attacked. Some of these are as follows: parsnip, parsley, celery, coriander, caraway, fennel, dill and poisonhemlock.

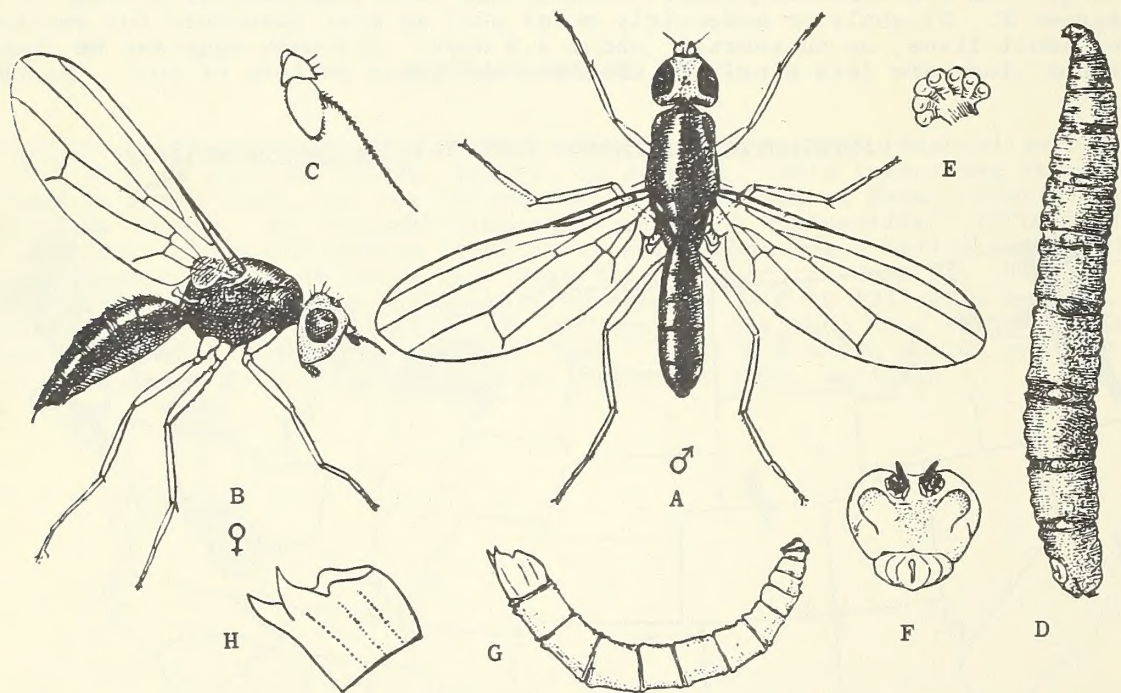
Life History and Habits: Larvae thrive under cool, damp conditions, and adults emerge from overwintering pupae in early May when temperatures average 55-65 degrees F. Slightly or moderately moist soil is most favorable for emergence. The adult lives, on an average, about 4.3 days. Although eggs may be found in groups, they are laid singly in crevices and among pellets of soil. Hatching

DISTRIBUTION OF CARROT RUST FLY (Psila rosae (F.))



occurs in 3-17 days depending upon temperature. Development of larvae in carrots lasts about 4 weeks. Second-generation adults appear from early July to late August and oviposit soon after emergence. Young larvae feed until freezing weather. As carrots are dug and stored before freezing weather, larvae continue to feed in stored carrots. In some areas there is a third generation. Pupation takes place 4-5 days after the larvae enter the soil. Overwintering occurs in this stage, 4-6 inches below the soil surface, within a few inches of the plant in which the larval development took place.

Description: EGG - White, oblong, about four times as long as broad, length 0.6 mm. - 1.0 mm. Marked longitudinally by narrow ridges and furrows, circular pits in the furrows causing sculpture to resemble the surface of a peanut shell. Constricted at one end, forming a knob or pedicel about one-third the width of the widest part of the egg. LARVA - Length 6-9 mm., width 1-2 mm. Generally colorless with white opaque spots when newly hatched, later turning creamy-white and gradually darkening until dark straw-yellow when mature. Head sharply pointed with prominent black mouth hooks. Cauda blunt and with a pair of dark colored caudal spiracles. PUPA - Length 4.5-5 mm., width 1.0-1.25 mm. Bright amber-brown, compact cauda blunt. ADULT - Length 4.5-5 mm., males slightly smaller than females. Wings thin, slightly iridescent, extending nearly half their length beyond the abdomen. Abdomen and thorax shiny, black, sparsely clothed with short, yellowish hairs. Head and legs pale yellowish-brown, eyes black. Male abdomen rounded at apex, female's sharply pointed. (Prepared in Survey and Detection Operations in cooperation with other ARS agencies). CEIR 10(35): 8-26-60



Figures of *Psila rosae*: A, male fly; B, female fly, lateral view; C, antenna of male; D, full-grown larva, lateral view; E, spiracles of same; F, anal extremity from the end; G, young larva; H, anal segment from side.

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